

## *Rhizochilus* in the Gulf of California

(Neogastropoda : ? Coralliophilidae)

BY

LEROY H. POORMAN

15300 Magnolia Street, Space 55 Westminster, California 92683

A BLACK CORAL OF UNDETERMINED SPECIES belonging to the sub-order ANTIPATHARIA has been brought in for many years by divers and fishermen to Guaymas, Sonora, Mexico. Recently, collectors have found a gastropod living on the base of the coral. The shell morphology and mode of living are unusual and place the species in the genus *Rhizochilus* Steenstrup, 1850.

The type locality for *Rhizochilus antipathus* Steenstrup, 1850, is in the Red Sea. Additional records are rare. One lot in the National Museum of Natural History-Smithsonian Institution was taken from the Island of Rodrigues, Indian Ocean. The genus is also reported from the Marquesas Islands by Dr. Harald Rehder (personal communication to Dr. Joseph Rosewater). KAY, 1979, reports *Rhizochilus* from the Hawaiian Islands; but her illustration shows significant differences from the west Mexican material. So do illustrations by H. & A. ADAMS, 1853, and GRAY, 1851 (both repeated in TRYON, 1880).

Thirteen lots of material from the Gulf of California have been examined. These lots were all taken in 20-60 m along the Sonoran coast, except for 3 lots found as beach specimens near Cabo Haro. Each lot consists of a coral base with 1-6 individual shells attached. Most, even the very young (6 mm), are grouped close together, with the young on top of mature shells and each covered with coral except for the end of the anterior canal. The coral is laid down in thin layers that remain pliable and separable while in sea water.

Several characteristics of this species have not previously been described or are different from those of *Rhizochilus antipathus*. The protoconch is narrowly turbinate, of 3 whorls, the 1<sup>ST</sup> minute and unornamented, the 2<sup>ND</sup> and 3<sup>RD</sup> with 1 and then 2 spiral cords made nodose by numerous weak axial ribs. This protoconch is very similar to that

of *Quoyula madreporarum* (Sowerby, 1834). The teleoconch begins with only a slight change of color and increases regularly up to the body whorl, which is greatly inflated posteriorly, resulting in a deeply canaliculated suture. The anterior canal is long and closed with thin white shelly material, sometimes growing longer than the spire and body whorl combined. Often, the only visible sign of a subsurface shell is the open end of the canal rimmed with living coral. When the coral is removed to expose the tan shell, there may be a thick irregular rim of shelly material around the aperture, perhaps extruded by the animal in an effort to lift off the substrate and to withstand the constriction of the overlying coral. This may also be a mechanism enabling the animal to excrete excess calcium resulting from its coral diet.

A generic characteristic is that the animal covers the canal and aperture with a thin shelly wall, leaving only the end of the canal open (GRAY, 1851). This is true of the species from the Gulf of California but with 2 significant exceptions. The shelly wall is never completely closed but provides access to the substrate through an irregular hole at the posterior end of the aperture. Also, there is a depression in the posterior wall, and sometimes a shallow canal, to provide for circulation of water.

The presence of an operculum in the genus has been questioned. The West Mexican specimens have a thin horny operculum similar to that of *Quoyula madreporarum* at all stages of growth.

The characteristics noted above have been observed in more than 30 specimens of dead and live-taken shells 6-36 mm in length including the canal. Until comparison with Indo-Pacific material can be made, it is best to cite the Gulf of California species as *Rhizochilus* sp. aff. *R. antipathus* Steenstrup, 1850.

## Literature Cited

- ADAMS, HENRY & ARTHUR ADAMS  
1853-1858. The genera of recent Mollusca, arranged according to their organization. John Van Voorst, London, 1: vi-xl+1-484; 2: 1-661; 3 (atlas): pls. 1-138
- GRAY, JOHN EDWARD  
1851. Observations on the genus *Rhizochilus* of Steenstrup. Ann. Mag. Nat. Hist. (2) 8: 477-479; pl. 17
- KAY, ELIZABETH ALISON  
1979. Reef and shore fauna of Hawaii, section 4: Mollusca. Bernice P. Bishop Mus. Spec. Publ. 64 (4): xviii+653; 195 text figs. Bernice P. Bishop Mus. Press, Honolulu, Hawaii
- SOWERBY, GEORGE BRETTINGHAM <sup>1st</sup>  
1834. The genera of Recent and fossil shells. London II: 237; figs. 6-12
- STEENSTRUP, JOHN JAPETUS  
1850. Beskrivelse over nogle maerkelige tildeeld nye dyrarter. Overs. k. Danske Vidensk. Selsk. Forh. 55-75
- TRYON, GEORGE WASHINGTON, Jr.  
1880. Manual of conchology. Philadelphia (1) 2: 205-206; pl. 65, figs. 348-350

